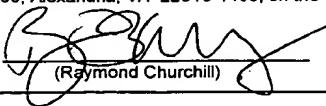




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Dated: April 8, 2004 Signature: 
(Raymond Churchill)

Docket No.: HALFORD 3.0-001
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Tait et al.

Application No.: 09/965,025

Group Art Unit: 2172

Filed: September 27, 2001

Examiner: A. Kindred

For: DATA MANAGEMENT SYSTEM

CLAIM FOR PRIORITY AND SUBMISSION OF DOCUMENTS

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Dear Sir:

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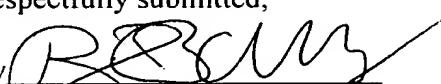
Applicant hereby claims priority under 35 U.S.C. 119 based on the following prior foreign application filed in the following foreign country on the date indicated:

Country	Application No.	Date
Australia	PR0401	September 27, 2000

In support of this claim, a certified copy of the original foreign application is filed herewith.

Dated: April 8, 2004

Respectfully submitted,

By 
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**Patent Office
Canberra**

I, JONNE YABSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. PR 0401 for a patent by ROBERT J TAIT and DIMITRY O GURIEFF filed on 27 September 2000.

I further certify that pursuant to the provisions of Section 38(1) of the Patents Act 1990 a complete specification was filed on 27 September 2001 and it is an associated application to Provisional Application No. PR 0401 and has been allocated No. 76111/01.

WITNESS my hand this
Twenty-first day of November 2001

2

**JONNE YABSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES**

AUSTRALIA
Patents Act 1990
PROVISIONAL SPECIFICATION
DATA MANAGEMENT SYSTEM

This invention relates to a system for establishing and maintaining a product to application database in a convenient and searchable form. The invention will be described with particular application to the automotive industry but it is not intended
5 to be limited thereto.

In the product component and spare parts industries there may be many suppliers that manufacture and supply similar parts and components. Each supplier will typically publish a catalogue of the products they manufacture that correlates their products
10 with the products on which they can be used. For example a manufacturer of oil filters for motor vehicles will publish a catalogue of the types of oil filters they manufacture that also lists the different makes and models of vehicles for which specific oil filters are suitable. These catalogues are typically provided in a printed form to a parts and components distributor who may sell a range of parts and
15 components from a plurality of manufacturers. The distributor therefore requires multiple catalogues in order to properly handle customer enquiries and purchase orders. These catalogues are clumsy for the distributor to handle and require constant updating and incorporation into the distributor's own systems. Furthermore this process needs to be replicated across many distributors, thus considerable time and
20 expense is wasted.

The present invention resides in a database system including electronic database means and computer means for accessing said database means, wherein said database is divided into one or more product groups each product group containing
25 information on one or more specific products and associations between a specific product within a product group and a compatibility group, members of said compatibility group being compatible with said associated specific product, and wherein said database means is searchable using said computer means by providing

the identity of a member of a compatibility group to return identity of the specific product within a product group that is compatible with said member.

In a second aspect, the invention resides in a product data management system

5 including electronic database means storing product information, means for creating one or more product groups, means for storing within a product group one or more specific product identifiers, means for a user to create one or more compatibility groups in respect of a product group, said compatibility groups containing one or more members, means for a user to create an association from one or more products within

10 a product group to a compatibility group, wherein said system creates an association path from each member of a compatibility group to a nominated specific product in response to a user creating an association from the nominated specific product to the respective compatibility group such that the said database is searchable by nominating the identity of a member and a product group to determine the identity of a specific

15 product within the nominated product group compatible with the nominated member.

Preferably each member is assigned to only one compatibility group in respect of a product group.

20 Preferably the system includes means for updating the database to include new members within a product group by one of assigning the member to an existing compatibility group, creating a new compatibility group for said member or assigning said new member to an unassigned group, said unassigned group containing no association to a product within the product group.

25 In a most preferred embodiment the system includes a central computer unit including a core database, and a plurality of product information supplier interfaces in communication with said central computer unit, wherein new member information is transmitted from the central unit to the product information supplier interfaces where

30 the new members are assigned to compatibility groups and wherein said compatibility groups are transmitted from said suppliers to said central unit and incorporated into said database.

The invention will now be described by way of example only with specific reference to the system as it applies to the automotive industry, though it will be readily apparent to the skilled reader that other applications within the scope of the invention 5 are possible. The system will further be described with reference to the accompanying Figures in which:-

Fig. 1 shows schematically the system of the present invention, and
Fig. 2 shows a schematic example of a product group interface.

10

Shown in Fig. 1 is the system according to the invention as denoted generally by reference numeral 10. The system 10 includes at its centre a computer interface 11 that provides a link between a core database 12 and a plurality of product information supplier interfaces 13, 14. The links between the centre computer 11 and the supplier 15 interfaces 13, 14, may be hardwired links forming part of a local area network but are preferably telecommunications links forming part of a wide area network such as the Internet.

The central computer 10 is operated by a host administrator. The supplier interfaces 20 13, 14 are operated by product manufacturer/suppliers who in the present example manufacture and/or supply spare parts to the automotive industry.

The database 12 stores information on the different products supplied by the suppliers and associations between those products and the different motor vehicles with which 25 those products are compatible.

The product information and associations are provided by the suppliers. To establish the database, a supplier creates an electronic catalogue of all the products manufactured by the supplier. Typically a supplier will manufacture products in one 30 or more product groups but with a variety of products within each group that are compatible with specific models of motor vehicle. For example a supplier may provide oil filters and head gaskets to the spare parts market, but different filters and

gaskets will be required for different vehicles thus requiring the supplier to provide a range of these products. The supplier will typically identify each different product they supply with a unique part number. Thus a catalogue of all the parts supplied by that supplier may be as appears in Table 1.

5

<u>Product Group</u>	<u>Part Number</u>
Oil Filters	X-OF-1
	X-OF-2
	X-OF-3
Head Gaskets	X-HG-1
	X-HG-2
	X-HG-2

Table 1 – Supplier X Catalogue

After creating the catalogue of supplier parts, the supplier then creates compatibility groups by making educated choices as to similarities between motor vehicles depending on the product group in question. For example, in regard to oil filters, a supplier may decide that motor vehicle MV-A is the same as motor vehicle MV-B and thus place them in the same compatibility group, yet in regard to head gaskets decide that vehicle MV-A and vehicle MV-B are different and thus place them in separate compatibility groups. A supplier's compatibility groupings may appear as in Table 2.

<u>Product Group</u>	<u>Compatibility Group</u>	<u>Compatibility Group Members</u>
Oil Filters	X-CG-1	MV-A, MV-B
	X-CG-2	MV-C
Head Gaskets	X-CG-3	MV-A
	X-CG-4	MV-B, MC-C

Table 2 – Supplier X Compatibility Groups

It should be noted that in order to provide maximum flexibility to the system, and to aid in searching, the motor vehicles are distinguished at the chassis level.

5 The compatibility groups can be created at the supplier interface using known “drag and drop” software tools by selecting specific motor vehicles from a list and placing them in a compatibility group directory or folder.

10 Within a product group, each motor vehicle identity belongs to only one compatibility group, though that compatibility group may be associated with multiple products within that product group.

15 Once the catalogue and compatibility groups have been created, the supplier can then commence to associate specific products within a product group with the compatibility groups created for that product group. The associations can be created at an interface, for example the interface shown in Fig. 2, again using “drag and drop” tools by first opening a directory corresponding to a product group. When this directory is opened, a list of sub-directories pertaining to all products and to all compatibility groups for that product group is presented. To create an association, the supplier selects and opens a sub-directory for a specific product and drags a 20 compatibility group into that sub-directory, or vice versa by dragging a product onto a compatibility group. The selected compatibility group will be the group containing all vehicles that are compatible with that specific product.

25 When the association from a specific product to a compatibility group is nominated by the supplier the system software automatically creates an association path from each member of the compatibility group to the specific product. In this way, the database becomes searchable so that a user can specify a vehicle identity and a product group identity and thereby determine the product within the nominated product group that is compatible with the nominated vehicle.

30

Once a supplier has established their electronic catalogue including all relevant associations, the catalogue can be used in-house by the supplier, storing all the

information in a local database, updating and maintaining the database as required. However, in accordance with the preferred embodiment of the invention, the product catalogue is transmitted to the central computer unit where the host administrator incorporates it into a global product association database including product association catalogues provided by a plurality of product suppliers/manufactures. The host administrator incorporates all the product information to provide a comprehensive catalogue listing supplier product groups, the products within each group and the compatibility groups for those products. An example of the lay out of the global database is shown in Table 3.

10

<u>Supplier Product Group</u>	<u>Part No.</u>	<u>Compatibility Group</u>	<u>Compatibility Group Members</u>
Supplier X Oil Filters	X-OF-1	X-CG-1	MV-A, MV-B
	X-OF-2	X-CG-2	MV-C
Supplier Y Oil Filters	Y-OF-1	Y-CG-1	MV-A,
	Y-OF-2	Y-CG-2	MV-C, MV-D
Supplier X Head Gaskets	X-HG-1	X-CG-3	MV-A
	X-HG-2	X-CG-4	MV-B, MV-C

Table 3 – Global Product Association Database

As can be seen from Table 3, not all product suppliers will necessarily create the same compatibility groups for the same type of part. This will be due to differences in the manufacture of different parts.

In order to keep the database current, the host administrator will periodically, eg. monthly, collate all information on new motor vehicles into a directory and transmit this directory to the supplier interfaces. The suppliers can then choose to deal with these new vehicles in one of three ways. Firstly, the supplier may add a new vehicle to an existing compatibility group. Secondly, the supplier may create a new compatibility group for one or more of the new vehicles and then associate that compatibility group with a specific product within the product group. Thirdly the

supplier can choose to leave a vehicle as unassigned to any compatibility group within that product group by placing the vehicle identity in an unassigned directory. The process is repeated for all the product groups of the supplier.

5 By only allowing the above three methods for updating data it is not possible for a supplier to ignore new vehicle data. Therefore the database is maintained in an accurate and importantly in a searchable form because a search for a particular vehicle association within a product group will always return a result, even if that result is that the vehicle has no part associated with it within that product group.

10

The software of the present system can also be used by the supplier using the same drag and drop techniques to create new product groups and assign new products to existing product groups in a similar manner as for updating the vehicle information described above. The software of the invention is designed to integrate with the

15 existing inventory control system of the supplier via a regular synchronisation interface.

One of the key advantages of the present invention is the benefit it provides to parts distributors in the form of a searchable database. Distributors can access the database

20 12 (Fig. 1) to download the product catalogue to a distributor interface 15, 16. The distributor can then search the locally stored catalogue to ascertain what particular parts are compatible with certain motor vehicles in the manner described above.

Furthermore the catalogue can be incorporated into the distributor's existing sales and accounting software to provide a total business management system.

25

The system of the invention also has facility to export the finished relationship data in a variety of formats to allow for mass distribution and application, including import into graphics packages for printed catalogue creation, web search application, multi-media CD creation or digital catalogue equivalent.

30

Further features of the invention will be apparent to the skilled reader. For example the database may further contain associations between product groups and/or

compatible associations between products within different product groups, such as where certain products from one product group are only compatible with members of a compatibility group when used with a specific product from a separate product group. This aspect of the invention has particular application in the computer 5 peripherals industry.

The database may also store additional product information, for example the cost of a product, a product's dimensions, current stock levels etc. as well as additional information on the members of the compatibility groups such as the full make and 10 model of a motor vehicle, its engine type and body type.

While particular embodiments of this invention have been described, it will be evident to those skilled in the art that the present invention may be embodied in other specific forms without departing from the essential characteristics thereof. The present 15 embodiments and examples are therefore to be considered in all respects as illustrative and not restrictive, and all modifications which would be within the competence of those skilled in the art are therefore intended to be embraced therein.

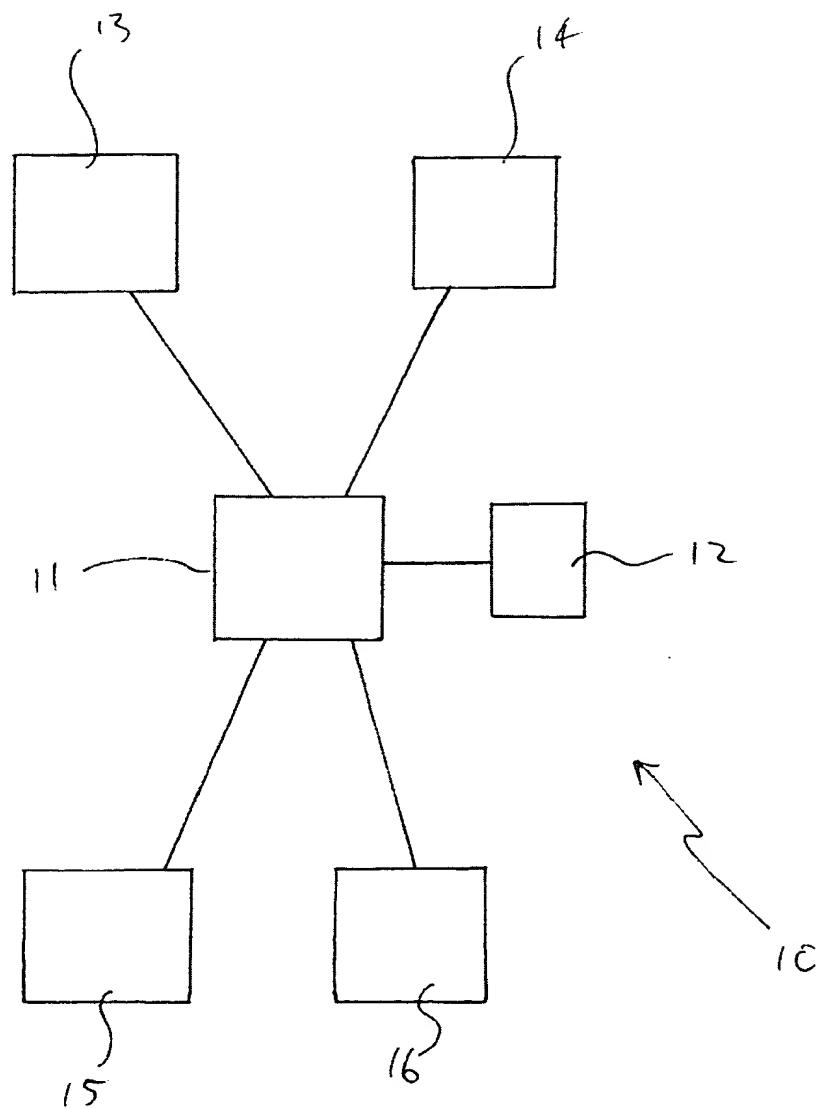


Fig. 1

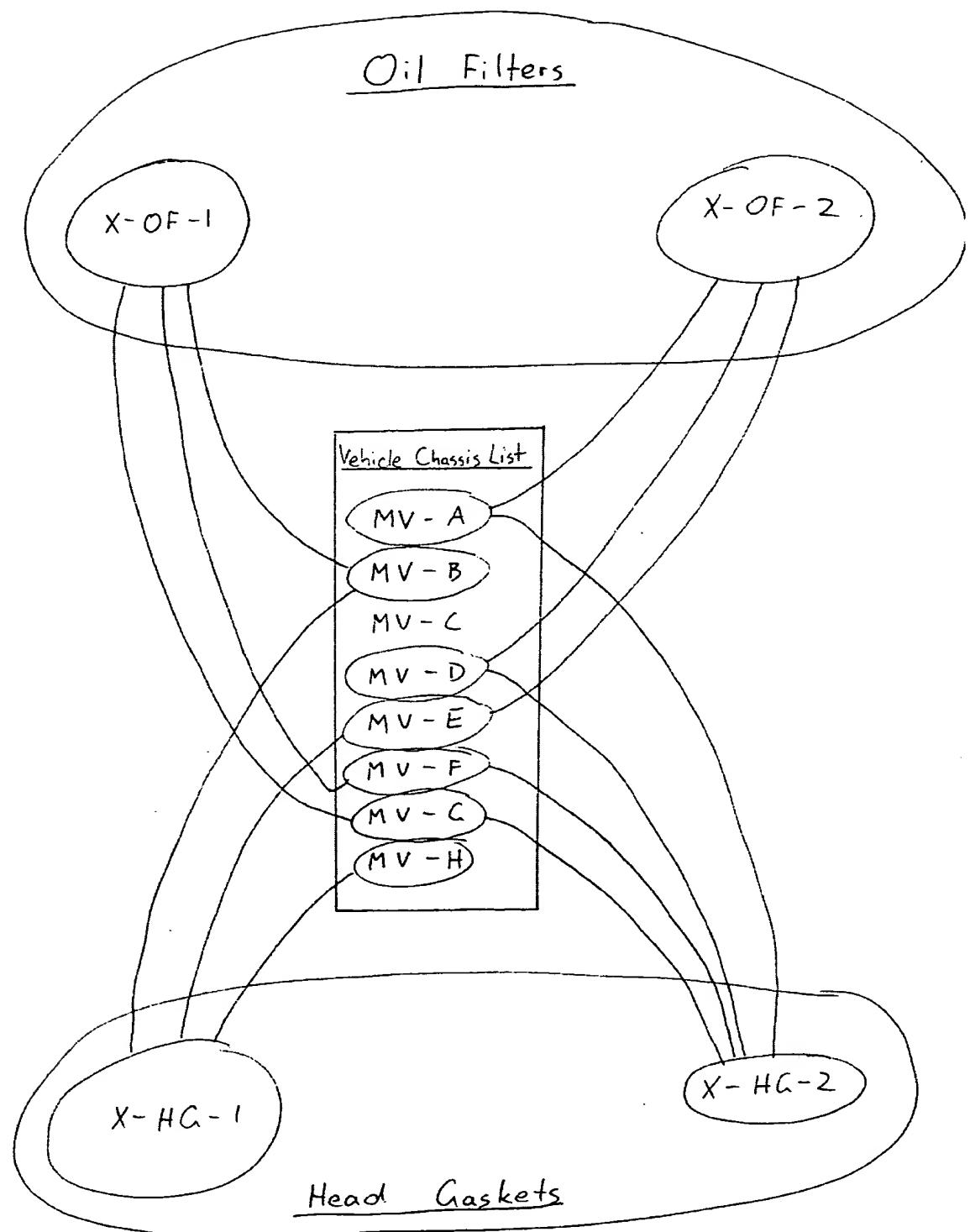


Fig. 2